

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
14 July 2005 (14.07.2005)

PCT

(10) International Publication Number  
**WO 2005/063829 A1**

(51) International Patent Classification<sup>7</sup>: **C08F 10/00**,  
4/60, 4/70

(21) International Application Number:  
PCT/EP2004/014609

(22) International Filing Date:  
22 December 2004 (22.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
103 61 505.9 23 December 2003 (23.12.2003) DE  
60/548,019 25 February 2004 (25.02.2004) US

(71) Applicant (for all designated States except US): **BASELL  
POLYOLEFINE GMBH** [DE/DE]; Brühler Strasse 60,  
50389 Wesseling (DE).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **MIHAN, Shahram**  
[IR/DE]; Am Eichwald 18, 65812 Bad Soden (DE).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,  
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG).

**Declaration under Rule 4.17:**

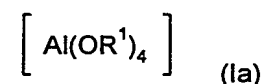
— of inventorship (Rule 4.17(iv)) for US only

**Published:**

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: CATALYST SYSTEM FOR OLEFIN POLYMERIZATION



(57) Abstract: The present invention relates to a catalyst system for olefin polymerization compris-  
ing an organic transition metal compound and, as cocatalyst, an ionic compound made up of anions  
of the formula (1a), Where the radicals R<sup>1</sup> are identical or different and are each, independently of  
one another, a radical R<sup>2</sup>R<sup>3</sup>(CF<sub>3</sub>)<sub>2</sub>, R<sup>2</sup> is a carbon or silicon atom and R<sup>3</sup> is hydrogen, C<sub>1</sub>-C<sub>20</sub>-alkyl,  
C<sub>1</sub>-C<sub>20</sub>-fluoroalkyl, C<sub>6</sub>-C<sub>20</sub>-aryl, C<sub>6</sub>-C<sub>20</sub>-fluoroaryl, C<sub>7</sub>-C<sub>40</sub>-arylalkyl, C<sub>7</sub>-C<sub>40</sub>-fluoroarylalkyl, C<sub>7</sub>-C<sub>40</sub>-alkylaryl, C<sub>7</sub>-C<sub>40</sub>-fluoroalky-  
laryl or an SiR<sup>4</sup><sub>3</sub> group, where R<sup>4</sup> may be identical or different and is each C<sub>1</sub>-C<sub>20</sub>-alkyl, C<sub>1</sub>-C<sub>20</sub>-fluoroalkyl, C<sub>6</sub>-C<sub>20</sub>-aryl, C<sub>6</sub>-C<sub>20</sub>-  
fluoroaryl, C<sub>7</sub>-C<sub>40</sub>-arylalkyl, C<sub>7</sub>-C<sub>40</sub>-fluoroarylalkyl, C<sub>7</sub>-C<sub>40</sub>-alkylaryl or C<sub>7</sub>-C<sub>40</sub>-fluoroalkylaryl, and Lewis-acid cations or Brønsted  
acids as cations. In addition, the invention relates to the process for preparing such a catalyst system and to a process for the poly-  
merization of olefins in which this catalyst system is used.



WO 2005/063829 A1